

PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTON

---

THREE NEW SUBSPECIES OF THE LIZARD  
*LEIOCEPHALUS MACROPUS* COPE FROM CUBA

GEORGE R. ZUG  
*Mt. Holly Springs, Pennsylvania*

Cope (1862), Gunlach (1880), Barbour (1914, 1937), Stejneger (1917), Barbour and Ramsden (1919), Cochran (1934), Alayo (1951, 1955), and Hardy (1958a, 1958b) gave locality records of *Leiocephalus macropus* which confined this species to the province of Oriente. Specimens have, however, been taken in the provinces of Camagüey, Las Villas, and Pinar del Río by Dr. Albert Schwartz and associates, John R. Feick, William H. Gehrmann, Armando García, and myself, while making herpetological collections in Cuba during the summers of 1957 and 1958 under the sponsorship of a National Science Foundation grant. It was considered possible that all or some of this freshly collected material might represent populations which differ from *L. macropus* as known from Oriente, and study of these lizards was initiated.

Stejneger (*op. cit.*: 275) gave the following description of a specimen (USNM 26769) collected at Santiago de Cuba, Oriente: "Upper side vinaceous cinnamon with a coppery gloss; head more cinnamon; tail with blackish crossbars narrowly edged with white posteriorly; from nostrils through eye along sides of neck and body to above and behind insertion of hind leg a broad blackish-brown band narrowly edged with pale above and below; upper labials, suboculars, and lower temporals to ear white; below whitish; throat and fore neck with numerous gray dots; lower labials dusky."

Comparison of USNM 26769 with the other Oriente specimens shows that this description is fairly accurate, if the length of time in preservation is considered. Although several of the Oriente specimens do not have the dotted throat or the lateral band quite so blackish-brown as Stejneger's specimen; this may be due to fading brought on by the preservation.

I have examined fifty-three specimens of *L. macropus* as follows: Oriente, 37; Camagüey, 5; Las Villas, 1; Pinar del Río, 9; Isla de Pinos, 1. I wish to thank the following for allowing me to examine the specimens of this species in their care: Dr. Doris M. Cochran, United States National Museum (USNM), Mr. Charles M. Bogert, American Museum

of Natural History (AMNH), Dr. Norman E. Hartweg, Museum of Zoology, University of Michigan (UMMZ), Dr. Ernest E. Williams, Museum of Comparative Zoology (MCZ), Dr. Carlos Guillermo Aguayo y de Castro, and Dr. Isabel Pérez Farfante, Museo Poey (MP), and Sr. Miguel L. Jaume García, Museo y Biblioteca de Zoología de La Habana (MBZH). Dr. Albert Schwartz has kindly allowed me to work over his material of this species, which has been deposited in the American Museum of Natural History, and the use of his field notes as well. The drawings are the work of Ronald F. Klinikowski, and he also deserves my thanks for his assistance. Both Mr. Klinikowski and myself have an undergraduate National Science Foundation grant which has in part supported the present research.

The usual scale counts have been made on all specimens of *L. macropus*; these counts include number of median head scales, number of prefrontals, number of frontoparietals, number of temporals, dorsal scales in occiput-vent and occiput-axilla distance, number of loreals, number of postmentals, subdigital carinate scales of fourth toe, and number of scales on one half body at midbody. Table I reveals that apparently none of the non-Oriente populations differs in scalation from those from extreme eastern Cuba. Although there is no noticeable difference in the scalation, I feel, after comparison of the Camagüey, the Las Villas, and the Pinar del Río specimens with Stejneger's color description and specimens from Oriente, that the three population represent three new subspecies, the first of which may be known as

***Leiocephalus macropus* *hoplites*, new subspecies**

Type: AMNH 78020, collected at 12 miles east of Morón, Loma de Cunagua, Camagüey Province, Cuba, by John R. Feick on August 6, 1957. Field number 3706.

Paratypes: AMNH 78016-19, with same data as type, except collected by W. H. Gehrmann and A. Schwartz.

Diagnosis: A subspecies of *L. macropus* distinguished by a distinct black striped throat pattern on a grayish-yellow background. The throat pattern consists of two black paramedian stripes, bordered anteriorly by a black stripe on each side which extends posteriorly in the direction of the axilla. Equidistant between the paramedian stripe and the diagonal stripe is a shorter black stripe (see figure 1). This race is also characterised by a L shaped white bar above the forelimb insertion (see figure 2).

Distribution: known only from type locality.

Description of type: An adult male with the following measurements (all measurements in millimeters): snout-vent length 78; tail 68 (regenerated); hindleg 63; snout-ear 19.5; head width 15. Scalation: median head scales 4; prefrontals 3; frontoparietals 5; supraoculars 6/6; loreals 7; temporals 16; auricular scales 3/3; postmentals 2; dorsals in occiput-vent distance 61; dorsals in occiput-axilla distance 23; scales around one half body at midbody 39; vertical rows of scales in

each tail whorl 3; subdigital carinate scales of fourth toe 27/28; prefrontal and frontoparietal rows complete; parietals in contact; supraorbital semicircles incomplete; frontonasals not in contact.

The two outstanding characteristics of *L. m. hoplites* are the striped throat pattern and the markings above the forelimbs. The black striped throat pattern is on a grayish-yellow background and consists of two black paramedian stripes bordered anteriorly by a black stripe on each side which extends posteriolaterally in the direction of the axilla; equidistant between the paramedian and the diagonal stripe is a short black stripe. The stripes are bounded at the base of the throat by a group of small broken stripes on a bronze background which extends slightly onto the chest (see figure 1). The markings above the forelimb insertion are composed of a vertical white bar confluent ventrally with a horizontal white bar (equal to the length of the vertical white bar) which extends anteriorly and slightly dorsally. Anterior to the vertical white bar is a large black area which is dorsal to the horizontal white bar. The large black area is bordered anteriorly by a vertical row of white spots which are just dorsal to the end of the horizontal white bar; anterior to the row of white spots is a small black area. Posterior to the vertical white bar, there is a group of black spots on an area unicolor with the side (see figure 2).

The color of *L. m. hoplites* in life was quite striking. The surface of the head was dark brown with the side of the head and the neck grayish to black. All face and head marking were white, except that the eyelids were yellow and the postmentals pink. The dorsum of the body was bronzy tan intermixed with darker brown, in contrast to the pale yellow of the venter and the underside of the limbs. Scattered throughout the venter were green and maroon scales. On the pale tan upper surface of the forelimbs were yellow spots, whereas the dark brown upper surface of the hindlimbs was spotted with tan. The proximal portion (unregenerate) of the tail was almost a pale violet dorally and laterally, whereas the underside was pink with pale greenish scales.

The color of *L. m. hoplites* after preservation is dull. The surface of the head is gray with the side of the head and the neck a dark grayish-brown. The loreals and the labials are a light brown. Intermixed on the dorsum are gray and bronze which continue down the sides and become a lighter gray until reaching the faded white of the venter. Extending onto the venter from the sides but not reaching the midline are pale blue rows of scales. The underside of the limbs is the same color as the venter, but the upper surface of the forelimbs is gray with black spots in contrast to the brownish-gray upper surface of the hindlimbs with pale blue spots. The background of the throat pattern has become a darker gray with a few white spots scattered throughout. The upper and lateral surfaces of the tail are a dark gray except for the light brown regenerated section. The venter of the tail is a lighter gray which becomes almost white on the regenerated section. A black nuchal



Fig. 1. *Leiocephalus m. hoplites*, throat pattern, type (AMNH 78020), snout-vent length 78 mm.

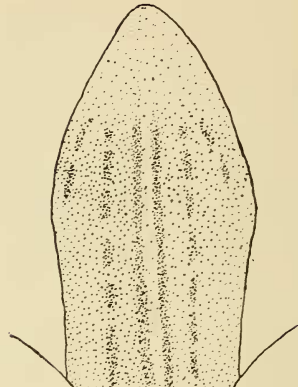


Fig. 3. *Leiocephalus m. macropus*, throat pattern, (USNM 59167), snout-vent length 73 mm.



Fig. 2. *Leiocephalus m. hoplites*, shoulder pattern, type (AMNH 78020).

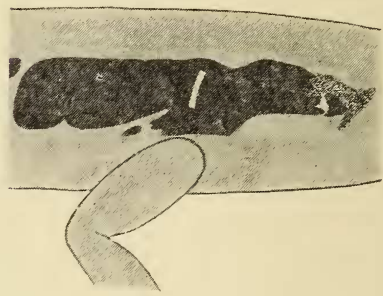


Fig. 4. *Leiocephalus m. macropus*, shoulder pattern, (USNM 59167).

bar, confluent with the large black area of the shoulder marking, is present on the dorsum above the forelimb insertion; on the dorsum above the hindlimb insertion are two short black bars which do not reach the dorsal ridge.

The four paratypes (AMNH 78016-19) are females with the following measurements respectively: snout-vent 65, 62, 60, 64; tail 94, -, 110, 92; head width 12.8, 13.1, 11.6, 12.7; snout-ear 16.0, 15.9, 14.7, 16.7; hindleg 53, 55, 46, 54. Scallation: median head scales 4, 4, 4, 4; prefrontals 3, 3, 3, 3; frontoparietals 5, 5, - 4; supraoculars 7/7, -/5, 6/6, 6/6; loreals 6, 8, 7, 8; temporals 15, 13, 13, 12; auricular scales 3/1, 4/4, 3/4, 4/3; postmentals 2, 1, 1, 2; dorsals in occiput-vent distance 56, -, -, 56; dorsals in occiput-axilla distance 26, 19, -, 21; scales around one half body at midbody 38, 31, -, 35; vertical rows of scales in tail whorls -, 3, 3, 3; subdigital carinate scales of fourth toe 28/26, -/27,



Fig. 5. *Leiocephalus m. hyacinthurus*, throat pattern, type (AMNH 78015), snout-vent length 88 mm.

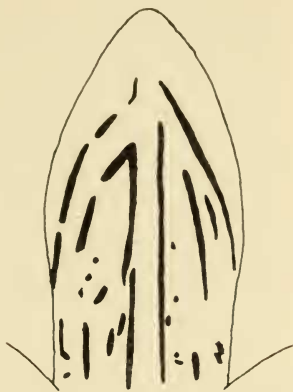


Fig. 7. *Leiocephalus m. koopmani*, throat pattern, paratype (AMNH 81188), snout-vent length 87 mm.



Fig. 6. *Leiocephalus m. hyacinthurus*, shoulder pattern, type (AMNH 78015).

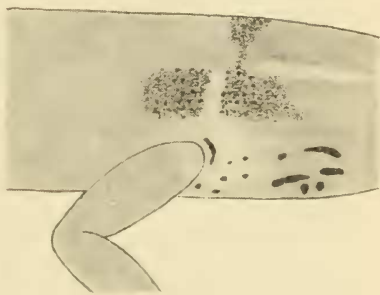


Fig. 8. *Leiocephalus m. koopmani*, shoulder pattern, paratype (AMNH 81188).

26/-, 28/28. All specimens, on which determinable, have prefrontals and frontoparietals rows complete, parietals in contact, supraorbital semicircles incomplete, and frontonasals not in contact.

The black paramedian stripe of the throat pattern is entire in all the paratypes, but the diagonal stripe and the stripe between the paramedian stripe and diagonal stripe are broken in some specimens. The background of the throat pattern varies from darker to lighter than that of the type. The row of vertical white spots anterior to the large black area of the shoulder marking described for the type is lacking in all paratypes, although this area is lighter in color than that anterior to it. In place of the small black area of the shoulder marking there is a dark brown area which extends to the posterior corner of the eye; this dark brown area is also present in the type, but in this single

specimen it extends from the anterior edge of the small black area to the posterior corner of the eye. In the paratypes the dorsum is much darker than in the type, and the nuchal black bars of the dorsum are not confluent with the large black area of the shoulder markings. The sacral black bars are identical. The tails possess dark whorls which are not evident in the type. The forelimbs have black spots, and the hindlimbs have either light spots or none.

Comparison: In contrast to the definite black throat stripes of *hoplites*, males of the race *macropus* have faint gray paramedian stripes with no diagonal stripe, and also lack a stripe just lateral to the paramedian stripe; instead this area is covered by short gray longitudinal stripes (see figure 4). Also in some individuals the pattern is so light as to be unnoticeable; this may be due to the fading effects of the preservative. The throat patterns of female *macropus* are in general slightly darker, but again the pattern fades out although remaining relatively conspicuous as a series of short gray longitudinal stripes. The throat pattern in the males of the race *immaculatus* is absent in the specimens I have examined; the female throat pattern is similar to that of the females of the race *macropus* but is not as dark.

The shoulder markings of *macropus* are extremely variable compared to that of *hoplites*. The markings of *macropus* vary from a large black area with a small vertical thin white bar above the forelimb insertion, to an area slightly darker than the sides with a faint vertical white bar. This bar is not confluent with the horizontal white bar (see figure 4). Also, the horizontal white bar, if present, may extend upon the supralabials, may stop at the posterior end of the labials, or may extend no farther than the anterior edge of the black area. The shoulder markings of *immaculatus* are virtually nonexistent, consisting of a very faint vertical white bar above the forelimb insertion on an area slightly darker than the sides. A few black spots may be scattered anterior and posterior to the bar, but these spots are not present in all specimens. The white bar is absent in some specimens.

The dorsum of preserved *macropus* varies from dark blackish-brown in some specimens to light greenish-brown in others. In preserved *immaculatus* the dorsum is generally greenish-brown, but may be gray with a greenish-brown suffusion. Transverse bands of dark and light scales on the dorsum of the female *macropus* are a typical character of that sex, whereas banding on the dorsum of males is infrequent. The banding continues on the tail whorls, and again is more evident in the females than in the males. Banding in *immaculatus* is completely absent. The nuchal black bar of the race *macropus* is not confluent with the black area of the shoulder region, and is bordered posteriorly, as is also the black sacral bar, by a narrow white bar. In two females and one male *macropus* a caudal black bar is present; and in some specimens of *macropus* the nuchal and the sacral bars are absent. The nuchal and sacral black bars are small or absent in *immaculatus*.

***Leiocephalus macropus hyacinthurus*, new subspecies**

*Type*.—AMNH 78015, collected at Finca La Pastora, 2 kilometer northwest of Trinidad, Las Villas Province, Cuba, by A. Echevarria, on July 30, 1957. Field number 3391.

*Diagnosis*.—A subspecies of *L. macropus* distinguished from the other described races by a black striped throat pattern on a purplish background. The throat pattern consists of two black paramedian stripes bordered anteriorly on each side by a black stripe which extends posteriorly in the direction of the ear opening. Between the diagonal stripe and the paramedian stripe is a group of small black stripes (see figure 5). This race also possesses a thin vertical yellow bar above forelimb insertion, and a thicker yellow bar which extends from the forelimb insertion dorsally and anteriorly (see figure 6).

*Distribution*.—Known only from type locality.

*Description of type*.—An adult male with the following measurements: snout-vent length 88; tail 108 (regenerated); hindleg 69; snout-ear 21.8; head width 6.7. Scallation: median head scales 4; prefrontals 3; frontoparietals 5; loreals 8; temporals 15; supraoculars 6/6; auricular scales 4/4; postmentals 3; dorsals in occiput-vent distance 54 dorsals in occiput-axilla distance 21; scales around one half body at midbody 36; vertical rows of scales in each tail whorl 3; subdigital carinate scales of fourth toe 30/28. The prefrontal and frontoparietal rows are complete; parietals and frontonasals in contact; supraorbital semicircles incomplete.

The throat pattern is on a purplish background with two black paramedian stripes bordered anteriorly by a black stripe which extends posteriorly in the direction of the ear opening. A group of ununiform short black stripes lies between the paramedian stripe and the diagonal stripe; this group of stripes continues posteriorly onto the chest (see figure 5). The markings above the forelimb insertion consist of a thin vertical yellow bar bordered posteriorly by a group of black spots which are somewhat longitudinally arranged upon an area unicolorous with the side. Anterior to the vertical yellow bar is a small triangular shaped black area with a short heavy yellow bar at its ventro-anterior edge.

In life the dorsum was tan with the scales becoming increasingly black posteriorly. Above the hindlimb and extending posteriorly onto the sides of the tail and around the vent as well, the scales were purple. The underside of the chest and the limbs was yellow with some pink on the hindlimbs. The side of the face, auriculars, and the side of the neck were whitish. The throat is purple with a rusty suffusion on the mentals and anterior labials.

After preservation, the dorsum is gray intermixed with bronze. The dorsum of the limbs is tannish-gray with black spots scattered throughout. The throat has lost its purple luster and is now a dark gray which blends into bluish-gray at the base of the throat. The venter is dirty bluish-white and, the underside of the limbs is whitish. The nuchal bar is small and almost absent (possibly due to fading), and the sacral bar

is absent. The yellow bars of the shoulder marking are now white, and anterior to the shoulder markings along the sides of the neck are black spots with a small black triangular area above them. Auriculars, lower temporals, and loreals are steel gray in color. The upper temporals are dark brown, and upper and lower labials are dark gray.

*Comparison.*—The throat pattern of *hyacinthurus* differs from that of *hoplites* in that the diagonal stripe of *hoplites* is heavier and makes a lesser angle with the paramedian stripe than that of *hyacinthurus*. Also *hoplites* has a black stripe between the paramedian and the diagonal stripes; whereas this area in *hyacinthurus* is occupied by a group of small black stripes. The throat pattern of both *macropus* and *immaculatus* is faint in comparison to that of *hyacinthurus*.

In the shoulder markings of *hoplites* the vertical white bar is thicker; the black area anterior to the vertical bar is larger and is bordered on its anterior edge by a vertical row of white spots which are not present in *hyacinthurus*. None of the shoulder patterns of the variable *macropus* is similar to that of *hyacinthurus*, and the shoulder patterns of *immaculatus* is almost non-existent.

Anterior to the shoulder markings and along the sides of the neck are a few black spots in *hoplites*; these black spots are more numerous in *hyacinthurus*, and are lacking in both *macropus* and *immaculatus*.

***Leiocephalus macropus koopmani*, new subspecies**

*Type.*—MCZ 55541, collected near the base of Cabo Corrientes, Pinar del Río Province, Cuba, by Karl F. Koopman on July 4, 1956.

*Paratypes.*—AMNH 78014, collected on the north shore of Ensenada de Corrientes, Pinar del Río Province, Cuba, by A. García on July 10, 1957; AMNH 81184-86 and 81188-89, collected on north shore of Ensenada de Corrientes, 40 km. west of Cayuco, Pinar del Río Province, Cuba, by A. García and myself on August 19, 1958; AMNH 88190, collected on north shore of Ensenada de Corrientes, 45 km. west of Cayuco, Pinar del Río Province, Cuba, by A. García.

*Diagnosis.*—A subspecies of *L. macropus* distinguished by a black striped throat pattern on a yellowish green background. Two black paramedian stripes which may be broken are present. On either side of the paramedian stripes are black stripes of varying length which usually lie parallel to the paramedian stripes (see figure 7). A vertical greenish white bar lies above the forelimb insertion with black spots both anterior and posterior to the bar.

*Distribution.*—Around Ensenada de Corrientes and the Peninsula de Guanahacabibes.

*Description of type.*—An adult male with the following measurements: snout-vent 84; tail 94 (regenerated); hindleg 70; snout-ear 19; head width 14.2. Scallation: median head scales 4; prefrontals 3; frontoparietals 4; supraoculars 6/6; loreals 8; temporals 14; auricular scales 5/4; postmentals 2; dorsals in occiput-vent distance 53; dorsals in occiput-axilla distance 20; scales around one half body at midbody 43;



vertical rows of scales in each tail whorl 3; subdigital carinate scales of fourth toe 28/28; prefrontal and frontoparietal rows complete; parietals in contact; supraorbital semicircles incomplete; frontonasals in contact.

The black striped throat pattern lies on a dark gray background which becomes lighter in color at the base of the throat. The throat pattern consists of two black paramedian stripes bordered at the anterior edge by a short diagonal black stripe on each side. Lateral to the paramedian stripes and posterior to the diagonal stripe this area is covered by black spots and small black stripes (see figure 7).

A vertical gray bar above the forelimb insertion is bordered posteriorly and anteriorly by a group of small black spots on an area slightly lighter than the sides. A thick short gray bar extends anteriorly and laterally from the forelimb insertion (see figure 8). On the dorsum above the forelimb insertion a heavy black nuchal bar is present; the sacral black bar is not conspicuous; since it is smaller and is broken into two parts by the dorsal ridge.

The dorsum is dark gray, suffused with black; the dorsum of the unregenerated section of the tail is grayish-green and the dorsum of the regenerated tail is greenish-brown. The dorsum of the limbs is brownish-gray with black scales scattered throughout. The venter is grayish-yellow with the venter of the limbs a little brighter. The sides are a lighter gray than the dorsum and are spotted; these spots are black near the dorsum and become brown as they near the venter.

A dark brown band extends posteriorly from the upper temporals almost to the shoulder pattern. The lower temporals are gray, and this color extends onto the supralabials. The chin is a whitish-gray.

*Variation of the paratypes.*—The four males (AMNH 78014, 81185-86, 81188) are about one third larger than the females (AMNH 81184, 81189-90). The variation in scale characters is insignificant (Table I).

In life the specimens were a bright grayish-green, almost iridescent. The dorsum was grayish-green and becomes iridescent purplish-green on the sides and the tail. The sides had scattered yellow spots; the dorsum of the hindlimbs had greenish-yellow spots. Posterior to the greenish-yellow throat the venter was an orangish-yellow. The midventral line was slightly green, and the upper eyelids had two bright yellow bars.

The specimens after preservation lose their bright coloration. The dorsa vary from dark grayish-green to tau. The sides are slightly lighter than the dorsum and have black spots. The venters are whitish, but some specimens retain the green midventral line. If prominent, the spots on the hindlimbs are pale blue; black spots on the forelimbs are prevalent in the males but are absent in the females.

The shoulder pattern is almost identical in all specimen, except for a variation in color of the vertical bar. The bar varies from a whitish-green to almost white. On the throat, the paramedian black stripes are broken in several specimens, and the black stripes parallel to the paramedian

stripes differ in size and number. The throat backgrounds range from brownish-green to pale grayish-green.

The nuchal black bar and the sacral black bar are present and follow the same pattern as the type. The tips of the unregenerated tails have alternating light and dark brown banding. The band that extends posteriorly from the upper temporals almost to the shoulder pattern varies from dark to light brown. The auricular scales and the lower temporals are dark blue in some specimens and grayish-white in others.

*Comparison.*—To distinguish *macropus* and *immaculatus* from *koopmani*, the throat pattern and the shoulder markings are sufficient; neither *macropus* or *immaculatus* has a definite black striped throat pattern as does *koopmani*. The shoulder pattern of *macropus*, in which a thin vertical white bar is present upon a large area of black, will readily distinguish this subspecies from *koopmani*; when *macropus* has a vertical white bar on an area unicolor with the sides no black spots are present, and this again will differentiate it from *koopmani*. The shoulder pattern of *immaculatus* differs from that of *koopmani* by either lacking the vertical white bar, or, if the white bar is present, the black spots are lacking.

The throat pattern of *hoplites* has the definite black diagonal stripe and the black lateral stripe beside the paramedian stripe. The diagonal stripe may be present in *koopmani*, but it is not so definite as in *hoplites*. The lateral stripe is lacking in *koopmani*. The vertical white bar confluent with the horizontal white bar in *hoplites* is not found in *koopmani*, nor is the large black area anterior to the vertical bar present in *koopmani*.

Again, in *hyacinthurus* the diagonal black stripe of the throat pattern is present. The area between the paramedian stripe and diagonal stripe is occupied by black spots in *hyacinthurus*; whereas this area in *koopmani* has short black stripes. The shoulder markings differ in that *hyacinthurus* has a black area anterior to the vertical bar, and *koopmani* has black spots anterior to the vertical bar.

*Isla de Pinos specimen.*—An uncatalogued specimen of *L. macrops* has been borrowed from the Universidad de la Habana collection. The locality of the specimen is supposedly Punta del Este, Isla de Pinos. I have examined the specimen, and it has the faintly marked throat of the race *macropus*; also the shoulder marking consists of a small vertical white bar surrounded by a large black area, another characteristic of the nominate race. The scale counts fall within the range of *macropus* (Table I).

Collections were made at Punta del Este in the summer of 1958 by Dr. Schwartz and myself; no *L. macropus* were obtained. The habitat is ideal for *L. macropus*, but the area is occupied by *L. cubensis*. As yet *L. macropus* has not been found anywhere in the same habitats occupied by *L. cubensis* or *L. stictigaster*.

I regard the specimen as having been mislabeled, and it is probably a specimen of *L. m. macropus* from Oriente.

Table 1: Data on scalation of five populations of *Leiocephalus macropus*.

	Oriente	Camaguey	Las Villas	Pinar del Río	Isla de Pinos
Number of specimens	13 ♀, 16 ♂, 1 ?	4 ♀, 1 ♂	1 ♂	3 ♀, 5 ♂, 1 ?	1 ♂
Median head scales	3-7	4	4	4-5	6
Prefrontals	3-4	3	3	3-4	4
Frontoparietals	4-10	4-5	5	4-6	6
Temporals	11.9 (11-16)	13.8 (12-16)	15	13.0 (11-15)	12
Loreals	7.2 (6-8)	9.2 (4-11)	8	8.6 (7-11)	9
Postmentals	3.3 (2-5)	1.5 (1-2)	3	2.4 (2-3)	2
Occiput-vent	61.4 (56-61)	57.6 (56-61)	54	54.6 (53-55)	63
Occiput-axilla	23.0 (19-27)	22.2 (19-26)	21	21.2 (20-22)	24
Axilla-vent	38.0 (25-45)	34.5 (31-39)	33	33.7 (33-34)	39
½ midbody	32.5 (27-41)	35.8 (31-39)	36	33.0 (25-43)	36
Fourth toe	27.3 (24-31)	27.2 (26-28)	29	27.8 (27-29)	27
Subspecies	<i>macropus</i>	<i>hoplites</i>	<i>hyacintharius</i>	<i>koopmani</i>	<i>macropus</i>

*Specimens examined.*—*L. m. macropus*: *Oriente*: Cabo Cruz, 2 (USNM 81688-89); Río Puerco, 3 (USNM 81671-72, 81674); Punta Icaos, 4 (USNM 81681-84); Santiago de Cuba, 1 (USNM 26769); Ciudadamar, near Santiago de Cuba, 3 (UMMZ 90732); Juraguá, 2 (MBZH 155); San Luis, 1 (USNM 29793); U. S. Naval Base, Guantánamo, 1 (UMMZ 115731); Guantánamo Bay, 6 (USNM 59156-57, 59160-61, 59167-68); Baracoa, 2 (USNM 29795, 29847); Puerto Tánamo, 3 (USNM 80402-04); Banes, 1 (UMMZ 114408).

*L. m. immaculatus*: *Oriente*: mouth of Río Magdalena, 1 (USNM 81680); Ocuja, 7 (USNM 138395, 138397, 138411, 138413-14, 138416-17).

*L. m. hoplites*: *Camagüey*: 12 mi. E. Morón, Loma de Cunagua, 5 (AMNH 78016-20).

*L. m. hyacinthurus*: *Las Villas*: Finca La Pastora, 2 km. NW Trinidad, 1 (AMNH 78015).

*L. m. koopmani*: *Pinar del Río*: near the base of Cabo Corrientes, 1 (MCZ 55541); north shore of Ensenada de Corrientes, 1 (AMNH 78014); north shore of Ensenada de Corrientes, 40 km. W. Cayuco, 6 (AMNH 81184-89); north shore of Ensenada de Corrientes, 45 km. W. Cayuco, 1 (AMNH 81190).

*L. m. cf. macropus*: *Isla de Pinos*: Punta del Este, 1 (MP).

#### LITERATURE CITED

- Alayo Dalmau, Pastor. 1951. Especies herpetológicas halladas en Santiago de Cuba. *Bol. Hist. Soc. Felipe Poey*, 2(7):106-110.
1955. Lista de los reptiles de Cuba. Universidad de Oriente, Museo "Charles T. Ramsden", mimeographed, pp. i, 1-29, 7 pls.
- Barbour, Thomas. 1914. A contribution to the zoogeography of the West Indies, with especial reference to amphibians and reptiles. *Mem. Mus. Comp. Zool.*, 44(2):209-259, 1 pl.
1937. Third list of Antillean reptiles and amphibians. *Bull. Mus. Comp. Zool.*, 82(2):77-166.
- and Charles T. Ramsden. 1919. The herpetology of Cuba. *Mem. Mus. Comp. Zool.*, 47(2):71-213, 15 pls.
- Cochran, Doris M. 1934. Herpetological collections from the West Indies made by Dr. Paul Bartsch under the Walter Rathbone Scholarship, 1928-1930. *Smith. Misc. Coll.* 92(7):1-48.
- Cope, E. D. 1862. Contributions to neotropical saurology. *Proc. Acad. Nat. Sci. Philadelphia*, pp. 176-188.
- Gundlach, Jaun. 1880. Contribución a la erpetología cubana. G. Montiel y Ca., Habana, pp. 1-98.
- Hardy, Jerry D. 1958a. A geographic variant gradient in the Cuban lizard, *Leiocephalus macropus* Cope. *Herpetologica*, 13(4):275-76.
- 1958b. A new lizard of the genus *Leiocephalus* from Cuba (Squamata: Iguanidae). *Journ. Wash. Acad. Sci.*, 49(9):294-300.
- Stejneger, Leonhard. 1917. Cuban amphibians and reptiles collected for the United States National Museum from 1899 to 1902. *Proc. U.S. Nat. Mus.*, 53:259-291, 128 figs.